

1 ABSTRACT

2 The present invention provides a sound activated detection
3 system disposed within the conveyor and/or hammer roll area of
4 a reduction mill for detecting unshredable materials fed into
5 the machine. More specifically, an embodiment of this
6 invention comprises a unshredable debris detector disposed in
7 operative relationship in the material input path and includes
8 a transducer, preferably a piezoelectric crystal, acoustically
9 coupled to a sensing surface disposed transversely across a
10 portion of the input path. Alternative embodiments may include
11 one or more accelerometers, microphones, or other vibration or
12 acoustic sensors either alone or in conjunction with the
13 transducer for detecting the unshredable material. The present
14 invention further features a conveyor system wherein the
15 conveyor(s) are automatically reversed for a predetermined
16 amount of time when a unshredable object is detected. The
17 reversal of the direction of movement of the endless
18 conveyor(s) allows the unshredable object, which could damage
19 the equipment, to be removed from the waste material.

20
21
22
23
24
25 \\Ns2\staff data files\Keith Campbell's Files\AkC\2607.000001\2607_001_app.wpd